

In the Claims

Add new dependent claims 35 and 36 per the following:

LISTING OF CLAIMS

Claims 1 to 13. (canceled)

14. (previously amended) A multi-mode receiver according to claim 19, wherein said first IF channel includes one or more stages for amplifying pulse amplitude modulated signals.

15. (previously amended) A multi-mode receiver according to claim 19, wherein said first IF channel includes one or more stages for amplifying and limiting phase shift keyed signals.

16. (previously amended) A multi-mode receiver according to claim 19, wherein said second IF channel includes one or more stages for amplifying and limiting spread spectrum modulated signals.

17. (previously amended) A multi-mode receiver according to claim 19, wherein said second IF channel includes one or more stages for producing digitized signals in response to analog spread spectrum signals applied to an input of the second IF channel.

18. (previously amended) A multi-mode receiver according to claim 17, wherein the stages of the second IF channel include a quadrature demodulator, and a pair of matched digital filters coupled to corresponding outputs of the demodulator.

19. (previously amended) A multi-mode receiver for detecting desired radio frequency (RF) signals having relatively wide and narrow bandwidths about a common RF center or carrier frequency, comprising:

a front end stage having an antenna input adapted to connect with an antenna responsive to signals over a RF band that includes the desired RF signals, a preselector for amplifying the signals input by the antenna and including a wide band RF filter having a pass band sufficient to pass both of the desired wide and narrow bandwidth signals about the center RF frequency, and a mixer for converting signals output by the preselector to frequencies within an intermediate frequency (IF) band;

a first IF channel coupled to an output of the front end stage and including a narrow band IF filter having a pass band of sufficient width for passing first IF signals corresponding to the desired narrow bandwidth signals to an output of the first IF channel, while rejecting signals corresponding to undesired interfering signals at frequencies in the vicinity of the desired narrow bandwidth signals;

a second IF channel coupled to the output of the front end stage and having a wide band IF filter with a pass band of sufficient width for passing second IF signals corresponding to the desired wide bandwidth signals to an output of the second IF channel; and

one or more processors coupled to the outputs of the first and the second IF channels for demodulating and processing the first and the second IF signals;

wherein said first IF channel is coupled to the output of said front end stage through the wide band IF filter of the second IF channel; and

the processors are configured to process the first and the second IF signals simultaneously.

20. (previously amended) A multi-mode receiver according to claim 19, wherein the wide band RF filter of said preselector has a 3-dB bandwidth of about 20 MHz.

21. (previously amended) A multi-mode receiver according to claim 19, wherein the pass band of the wide band RF filter of said preselector is centered at about 1030 MHz.

22. (original) A multi-mode receiver according to claim 21, wherein said wide band RF filter has about 65 dB rejection for RF signals at 1008 MHz and at 1052 MHz.

23. (previously amended) A multi-mode receiver according to claim 19, wherein the narrow band IF filter of the first IF channel has a 3-dB bandwidth of about 7.5 MHz.

24. (previously amended) A multi-mode receiver according to claim 23, wherein the narrow band IF filter has about 85 dB rejection at frequencies corresponding to RF signals at 1008 and 1052 MHz.

25. (previously amended) A multi-mode receiver according to claim 19, wherein the front end stage includes one or more overload limiting diodes operatively connected between said antenna input and the wide band RF filter of said preselector.

26. (previously amended) A multi-mode receiver according to claim 29, wherein the front end stage includes one or more overload limiting diodes operatively connected between said antenna input and the wide band RF filter of said preselector.

27. (canceled)

28. (previously amended) A multi-mode receiver according to claim 19, wherein the second IF channel comprises a limiter coupled to an output of the wide band IF filter, and the wide band IF filter is configured to reject potentially interfering

signals by an amount sufficient to prevent the limiter from being captured by the interfering signals.

29. (previously amended) A multi-mode receiver for detecting desired radio frequency (RF) signals having relatively wide and narrow bandwidths about a common RF center or carrier frequency, comprising:

a front end stage having an antenna input adapted to connect with an antenna responsive to signals over a RF band that includes the desired RF signals, a preselector for amplifying the signals input by the antenna and including a wide band RF filter having a pass band sufficient to pass both of the desired wide and narrow bandwidth signals about the center RF frequency, and a mixer for converting signals output by the preselector to frequencies within an intermediate frequency (IF) band;

a first IF channel coupled to an output of the front end stage and including a narrow band IF filter having a pass band of sufficient width for passing first IF signals corresponding to the desired narrow bandwidth signals, while rejecting signals corresponding to undesired interfering signals at frequencies in the vicinity of the desired narrow bandwidth signals;

a second IF channel coupled to the output of the front end stage and having a wide band IF filter with a pass band of sufficient width for passing second IF signals corresponding to the desired wide bandwidth signals; and

a processor coupled to the first and the second IF channels for demodulating and processing the first and the second IF signals;

wherein the second IF channel comprises a limiter coupled to an output of the wide band IF filter, and the wide band IF filter is configured to reject potentially interfering signals by an amount sufficient to prevent the limiter from being captured by the interfering signals.

30. (previously added) A multi-mode receiver according to claim 29,

wherein said second IF channel includes one or more stages for amplifying and limiting spread spectrum modulated signals.

31. (previously added) A multi-mode receiver according to claim 29, wherein the wide band RF filter of said preselector has a 3-dB bandwidth of about 20 MHz.

32. (previously added) A multi-mode receiver according to claim 29, wherein said second IF channel includes one or more stages for producing digitized signals in response to analog spread spectrum signals applied to an input of the second IF channel.

33. (previously added) A multi-mode receiver according to claim 32, wherein the stages of the second IF channel include a quadrature demodulator, and a pair of matched digital filters coupled to corresponding outputs of the demodulator.

34. (previously added) A multi-mode receiver according to claim 29, wherein the processor includes one or more processor stages that are configured to process the first and the second IF signals simultaneously.

35. (new) A multi-mode receiver according to claim 19, wherein the receiver forms part of an identification friend from foe (IFF) transponder.

36. (new) A multi-mode receiver according to claim 29, wherein the receiver forms part of an identification friend from foe (IFF) transponder.

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